

## Notes on a Collection of Crabs from Christmas Island, Indian Ocean

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### PLATES I—III

This interesting collection was made by Mr. M. W. F. Tweedie, Assistant Curator of the Raffles Museum, Singapore, and includes a number of new species, two of which belong to new genera described in the following pages. I am deeply indebted to Mr. Tweedie for the opportunity of working on the material and take pleasure in naming one of the new genera after him. Two species of the neglected genus *Pilumnus* have been omitted from this report in order that they may receive further attention, and will be finally included in a study of the Australian forms.<sup>1</sup>

The types of the new species will be deposited in the British Museum.

### SYSTEMATIC.—

- Hyastenus macrospinosus* sp. nov.
- ✓ *Proechinoecus sculptus* gen. and sp. nov.
- ✓ *Kraussia porporcellana* sp. nov.
- Pseudoliomera natalensis* sp. nov.
- Atergatis tweediei* sp. nov.
- Leptodius planus* sp. nov.
- ✓ *Etisodes albus* sp. nov.
- Medacus noelensis* sp. nov.
- Parazanthias haematostictus* sp. nov.
- Chlorodopsis natalensis* sp. nov.
- Tweedieia noelensis* gen. and sp. nov.
- Pernon demani* nom. nov. for  
*Leiolophus abbreviatus* de Man (*nec* Dana.).
- Pachygrapsus natalensis* sp. nov.

### Order DECAPODA

### Tribe Brachyura

### Sub-tribe Dromiacea

### Family DROMIIDÆ

### Genus *Cryptodromiopsis* Borradaile

*Cryptodromiopsis* Borradaile Ann. Mag. Nat. Hist. (7), 11, no. LXIII, Mar. 1903. 299.

Haplotype. *C. tridens* Borradaile 1903. Type locality. Male or Minikoi Atolls.

1. Thanks are due to Dr. Charles Anderson, the Director of the Australian Museum, for allowing Joyce K. Allan to make the accompanying drawings.

*Cryptodromiopsis tridens* Borradaile.

*Cryptodromiopsis tridens* Borradaile Ann. Mag. Nat. Hist. (7), 11 no. LXIII, March 1903. 300. Described more fully Fauna and Geog. Maldives and Laccadive Arch., II, 1906, 578, pl. XXXIII, fig. 4. Male and Minikoi Atolls.

*Material*.—One male measuring 8 mm., across the carapace.

Sub-tribe Brachygnatha

Superfamily Oxyrhyncha

Family MAIDÆ

Genus *Hyastenus*, White

*Hyastenus* White, Proc. Zool. Soc. London XV (172) May, 1847. 56.  
Haplotype. *Hyastenus sebae* White.

*Hyastenus macrospinosus* sp. nov. Pl. 1, Fig. 4, 4a.

Carapace moderately convex transversely, the cardiac and gastric areas are outlined by shallow sulci which are in the form of a lyre. There is a reversed triangle on the cardiac region formed by three low granules. There are two kinds of hair on the carapace; the most noticeable consists of short stiff black bristles, the tips of which are slightly curved, the other hairs are long and golden. The epibranchial spine is represented by a small blunt nodule and there is a row of smaller nodules extending along the epimeral wall of the carapace a short distance above the bases of the ambulatory legs. The sub-hepatic facet is not strongly developed and is capped by a nodule similar in shape to those on the epimeral wall.

The orbit is large and the eye is received unto a broad cupped tooth the supra-ocular eave is developed into a strong acclivous spine anteriorly. The space between it and the post-ocular tooth is filled by a small blunt spine, the margins of which are fused with the supra-ocular eave and the post-ocular tooth.

The rostral spines are slender and short, being about half the length of the carapace.

The ambulatory legs are thick, the merus of the first pair is armed along its anterior margin with a series of sharp spines ending near the extremity with a long spine. There is a similar one on the carpus and both are directed forward. The other legs are unarmed.

The sternal surface is covered with a coating of short yellow down.

*Material*.—One male measuring 10 mm., total length of the carapace, including rostral spines. Designated as Holotype.

One female measuring 10 mm. retained in Ward collection, Sydney.

Family PARTHENOPIDÆ

Sub-family EUMEDONINÆ

Genus *Proechinoecus* nov.

The carapace is pentagonal and scarcely convex in a longitudinal direction. The rostrum is broad, lamellate and rounded at the tip and without a vestige of a median emargination. The anterior legs are short and sub-equal; the ambulatory legs are slender. It is allied to *Echinoecus* Rathbun but is readily differentiated by the following characters.

*Echinoecus* Rathbun.

*Proechinoecus* nov.,

- |                                                                                        |                                                                                                                                         |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1. Carapace very convex.                                                               | 1. Carapace almost flat.                                                                                                                |
| 2. Rostrum triangular and flattened horizontally; strongly deflexed.                   | 2. Rostrum broadly triangular; concave horizontally; not strongly deflexed.                                                             |
| 3. Eyes small, in circular orbits concealed by the carapace.                           | 3. Eyes of normal size; not concealed by the carapace.                                                                                  |
| 4. The junction of the rostrum and the anterolateral margins marked by an indentation. | 4. The lateral margins and the rostral margins are broken by the orbit but the broadly triangulate outline of the carapace is retained. |

*Proechinoecus* resembles *Gonatonotus* White, of which there are specimens in my collection, but it may be readily separated by the condition of the lateral angles and the postero-lateral margins of the carapace. In *Gonatonotus* White the lateral angles are produced as transversely directed acuminate processes and the posterolateral margins are concave; in *Proechinoecus* the lateral angles are not transversely produced and the postero-lateral margins are parallel and moderately convergent posteriorly.

The antennular fossæ of *Proechinoecus* are almost longitudinal whereas they are oblique in *Gonatonotus* White.

*Proechinoecus sculptus* sp. nov., Pl. I, Fig. 5, 5a.

A marked degree of sexual dimorphism occurs in this species, and is not to be observed in the known species of the allied genera. It consists in the eroded condition of the carapace of the females. As noted further on in the description the surface of the carapace has the appearance of the moon's surface, being

covered with irregular shallow crater-like pits; the eyes of the females are smaller than those of the males and the dorsal surface of the carapace of the male is coarsely punctate but not eroded.

*Description of the male type.*—The carapace is slightly broader than long, the surface is covered with coarse punctæ. There is an intensification of the punctæ on each side of the cardiac regions which form crescent shaped areas, the horns of which point towards the lateral margins of the carapace.

The anterolateral margins of the carapace are rounded and the sub-hepatic and epimeral walls are vertical and finely eroded. The anterolateral angle of the carapace is armed with a short, sub-acute, anteriorly directed spine, the posterior margin of which is confluent with the postero-lateral margin. The postero-lateral margins are parallel and defined by a sharp margin for their anterior half; moderately convergent and undefined in the posterior half.

The orbital hiatuses are broad and filled by the antennæ. The eyes fit the orbits completely. The antennular fossæ take up most of the under surface of the rostrum and their anterior margins are not defined. The basal articles of the antennulæ are sculptured and resemble the adjacent walls of the carapace appearing to be lateral prolongations of the epistome making contact with the lateral angles of the rostrum. The epistome is narrow, transversely concave and smooth.

The buccal orifice is broad, its width being equal to half that of the carapace. The external maxillipeds are smooth and covered with scattered punctæ. The ischium of the maxilliped is longer than broad, the inner margin entire and without hairs. The merus is equal to half the length of the ischium.

The sternum is smooth and less densely punctate than the dorsal surface of the carapace. The abdomen is narrow and its margins are clothed with fine hairs which form a thick fringe on the last segment.

The chelipeds are unequal; the merus of the larger is short and armed on the upper margin with a broad blunt spine and there is a sharper and longer spine on the anterior margin near the articulation with the carpus. The carpus is strongly punctate externally and armed on the inner angle with a broad sub-acute spine. The manus is as broad as its upper margin is long; the upper and outer surfaces are punctate, the punctæ being more numerous above than below. The lower margin is thin but not cristate and the outline is convex. The immovable finger is slightly deflexed.

The dactylus is armed with broad triangulate teeth which interlock with those on the immovable finger, these teeth are

not strongly developed. The small chela resembles the large in all but size.

The ambulatory legs are long and slender, the merus of the last pair is equal to the propodus, but in the other pairs it is slightly longer.

Male type measuring 4 mm., across the carapace.

*Description of the female type.*—The rostrum is less produced than in the male.

The eye is smaller and the eye stalk is abruptly constricted so that the cornea is small and globular.

The dorsal surface of the carapace is covered with irregularly shaped pits some very large and others very small and giving the appearance of moon craters as previously noted. The areas on each side of the cardiac region are intensely sculptured.

The legs and chelæ are less sculptured than the carapace.

The abdomen covers the whole surface of the sternum.

The dissimilarity of the sexes is comparable with the dimorphism to be observed in such genera as *Huenia* and *Pinnotheres*.

Female type measuring 6.5 mm. across the carapace.

*Material.*—Numerous specimens found underneath the tests of the Echinoid, *Colobocentrotus atratus* (Linn.), a species which lives adhering tightly to the surface of rocks between tide marks.

#### Super-family Brachyrhyncha

#### Family PORTUNIDÆ

#### Genus Charybdis De Haan.

*Charybdis* de Haan Fauna Japonica Crust., 1833, 3, 10.

Logotype *Portunus* (*Charybdis*) *dentatus* de Haan 1833. *Cancer scindentata* Herbst 1783, East Indies., *Portunus lucifer* Fabricius 1798 Indian Ocean.

#### *Charybdis picta* (Stimpson).

*Thalamita picta* Stimpson, Proc. Acad. Nat. Sci. Phila., X 1853, 39 (37) Ousima. and Smithsonian. Miscell. Coll. Wash., XLIX, 1907, 85, pl. X, fig. 5.

This species bears a resemblance to *Charybdis lineatum* (A. Milne Edwards) from Nukahiva, however a careful comparison of specimens in my collection with the description and figure of Milne Edwards convinces me that the species are distinct.

*Material.*—Ten females ranging from 8.5 mm. to 18.5 mm. in total carapace width. All but one of the mature individuals are ovigerous. The largest immature specimen is 10 mm. broad. The smallest ovigerous specimen is 12 mm. broad. Three



specimens have the red markings on the carapace which form a broad Y on one, on another only the tips of the figure are present.

Six males ranging from 7 mm. to 18.5 mm. total carapace width. The largest specimens have the red markings on the carapace noted on the mature females.

#### Family CANCRIDÆ

##### Genus Kraussia Dana

*Kraussia* Dana, U.S. Explor. Exped., XIII, Crust., 1. 1852, 300.  
Haplotype, *K. rugulosa* (Krauss) South Africa.

*Kraussia porporcellana* sp. nov. Pl. I, Fig. 7, 7a, 7b.

*K. porporcellana* differs from *K. integer* (de Haan) in the following characters:—

1. It is narrower across the posterior margins.
2. The front is narrower and the median lobes are prominent.
3. The anterolateral margins are not as marked.

From *K. nitida* Stimpson (Dredged in 20 fathoms in Kagosima Bay.) in having the anterolateral margins armed with spines.

From *K. rugulosa* (Krauss) in having:—

1. The front more advanced in the middle.
2. The fronto-orbital margin narrower.
3. The fingers of the hand toothed on their opposed edges.
4. The ridges on the upper margin of the mobile finger not placed as in *K. rugulosa*; there are three in *K. porporcellana*, two having nodules along them, the third, which is on the inner margin, is faintly marked and without nodules.

From *K. porcellana* (Adams and White) in having:—

1. All the lateral spines simple.
2. The mobile fingers of the chelæ armed with only three teeth.
3. No denticulated lines on the external surface of the immobile fingers.

From *K. hendersoni* Rathbun in having the front less produced, the median lobes broad instead of the outer lobes as in *K. hendersoni* and the anterolateral margins armed with fine teeth.

**Material.**—Three males measuring 8.5, 10, and 12 mm., respectively in total carapace width. The largest is designated as type. One female measuring 10.5 mm. in total carapace width.

#### Family XANTHIDÆ

##### Sub-family XANTHINÆ

##### Genus Carpilodes Dana

*Carpilodes* Dana Amer. Jour. Sci., (2) XII, 1851, 126.

Haplotype *C. tristis* (Specific name not given until 1852). Locality. Paumotu Arch.

*Carpilodes rugatus* (Latreille). A. Milne Edwards.

*Carpilodes rugatus* (Latreille), A. Milne Edwards, Nouv. Arch. Mus. Hist. Nat. Paris. 1, 1865, 230, pl. XII, figs. 3, 3a, 3b. Indian Ocean, and coast of China.

*Carpilodes rugatus*. (Latreille) Ward. Austr. Zoologist VII, III, 1932, 241. Capricorn Group, Queensland.

**Material.**—Two females measuring 10 mm. across the carapace and three males measuring 9.5, 10.5 and 12 mm. across the carapace. The specimens all exhibit the characteristic colouration of the carapace and limbs, dark purple with the tips of the ambulatory legs white. The fingers of the chelæ are red proximally, the distal half white.

The species appears to be widely distributed, and displays very little variation when specimens from widely separated localities are compared. There are specimens in my collection from North West Island, Queensland.

##### *Carpilodes bellus* Dana.

*Carpilodes bellus* Dana U.S. Explor. Exped., Crust. 1. 1852, 196. Atlas, 1855, pl. XI, fig. 2.

Odhner, 1925, gives *C. vaillantianus* A.M. Edwards from the Red Sea as a synonym of *C. bellus* Dana.

**Material.**—Four males ranging from 6 to 9 mm. and six females ranging from 5 to 10 mm., total carapace width.

##### Genus Pseudoliomera Odhner

*Pseudoliomera* Odhner, K. Vet. O. Vitterh. Samh. Handlingar, Bd. 29, 1, 1925, 74.

Orthotype. *P. granosimana* (A. Milne Edwards).

Type Locality. New Caledonia.

*Pseudoliomera natalensis* sp. nov. (Pl. III, Fig. 2, 2a).

The carapace is broader than long, longitudinally convex. The median portion of the carapace is flat transversely curving abruptly downward near the anterolateral margins. The inter-regional sulci on the dorsal surface of the carapace are distinct, the surface is microscopically granular and coarsely punctate.

The anterolateral margins are thick and entire. The posterolateral margins are not defined; they are very short and slightly concave. The front is equal to one third of the total width of the carapace; it is deflexed and slightly emarginate.

The orbits are large and the eyes fit snugly into them. The upper orbital margin has two faint sutures close together near the lateral angle. The antennae are almost excluded from the orbits. The antennules are large and transversely directed.

The maxillipeds are large and smooth and completely close the buccal orifice. The chelipeds are equal in size and compressed. The lower outer surface is smooth and shining, the upper half is ornamented with large procurved spinose granules.

The sternum is coarsely punctate but the abdomen is smooth. The ambulatory legs are compressed but not carinated.

*P. natalensis* differs from *P. granosimana* (A. M. Edw.), in several characters: 1. The inter-regional sulci are distinct upon the carapace of *P. natalensis*. 2. The chelae are equal in size in *natalensis*. 3. The granules on the outer surface of the hand of *natalensis* are salient. 4. The fingers are pale brown and much shorter than in *P. granosimana*. 5. The ambulatory legs are compressed in *natalensis*.

**Material.**—One male measuring 13 mm. in total carapace width; designated as type. One female measuring 12 mm. in total carapace width.

#### Genus *Lioxantho* Alcock

*Lioxantho* Alcock, Journ. Asiat. Soc. Bengal. LXVII, II, 1, 1893. 90.

Logotype. *L. tumidus* Alcock, by present designation.

Type locality. Andamans.

#### *Lioxantho laevidorsalis* (Miers). (Pl. II, Fig. 2, 2a).

*Xantho laevidorsalis* Miers, Challenger Brachyura, XVII, 1886, 127.

*Xantho bidentatus* Miers Ibid. XVII, 1886, 126; not of A.M. Edw.

The figures in the Challenger report on Brachyura are very misleading owing to their not having been checked by Miers before they were published. And consequently it is with some hesitation that I place the single specimen before me in this species.

I have specimens from Rarotonga of what I take to be *L. bidentatus* (A. Milne Edwards) which was originally recorded from Hawaii, but which has not since been noted as occurring at that locality, except that it is listed by Rathbun, 1903, apparently without further material being examined from that locality. *L. laevidorsalis* (Miers) is readily separable from *L. subacuta* (Stimpson) by the narrower outline of the carapace and by the dentition of the anterolateral margins (for which see figures).

**Material.**—One female measuring 11.5 mm., in total carapace width.

#### *Lioxantho subacuta* (Stimpson). (Pl. II, Fig. 1, 1a).

*Liomera subacuta* Stimpson, Proc. Acad. Nat. Sci. Philad., X, 1858, 32 (29) and Smith. Miscell. Coll., xlix, 1907, 39, pl. v. fig. 1. "Loo Choo".

The specimens before me agree with the description and figure quoted and also approach the description and figure of *L. subacuta* which was published by de Man and which has subsequently been called *Xantho demani* by Odhner. However there are sufficient characters which separate the two and consequently I use Stimpson's name.

**Material.**—One female measuring 12.5 mm., across the carapace. Two males measuring 10 and 15 mm., across the carapace.

#### Genus *Atergatis* De Haan

*Atergatis* de Haan Fauna Japonica Crust., 1833, 17.

Logotype. *A. intergerrimus* de Haan, by present designation.

Type locality. Japan.

#### *Atergatis tweediei* sp. nov. (Pl. I, Fig. 3, 3a).

The species is allied to *A. ocyroe* (Herbst) but is readily separated by the following characters:—1. The ambulatory legs are not crested. 2. The upper margin of the hand is not carinated and there is no evidence of the net-work of raised lines characteristic of the outer surface of the hand of *A. ocyroe*. 3. The front is broader in *A. tweediei*.

**Description.**—The carapace is smooth and very faintly areolated, the most distinct impressed lines are those on each side of the cardiac region. The surface of the carapace is punctated all over. The anterolateral margins are thin and divided into three broad lobes by two distinct fissures.

The orbits are large and resemble those of *A. ocyroe* in shape, except that the inner angle of the lower border is not produced as far as the supra-orbital angles. The front is deflexed and slightly bilobed, the median notch is obsolete.

The chelipeds and ambulatory legs are smooth, and although they are compressed, they are not carinated. The manus has its outer surface coarsely punctate. The pollex has three large, sharp teeth on its proximal half; the dactylus is without teeth, its outer surface has a longitudinal groove.

**Material.**—Two females 8 and 9 mm. across the carapace.

#### Genus *Leptodius* A. Milne Edwards

*Leptodius* A. Milne Edwards, Ann. Sci. Nat. (4) XX, 1863, 284.

Logotype Specified by Rathbun Bull. 152 U.S. Nat. Mus., Washington 1930, 296. *Leptodius exaratus* = *Chlorodius exaratus* H. Milne Edwards, India.

*Leptodius sanguineus* (H. Milne Edwards).

*Chlorodius sanguineus* H. Milne Edwards Hist. Nat. Crust. 1, 1834, 402. Mauritius *Leptodius sanguineus* (H. Milne Edwards) Ward Aust. Zool., VII, III, 244 Heron Id. Capricorn Group, Queensland.

The series before me gives a fine idea of the variation both of the colouration and the characters. There are sixteen specimens and no two are alike in colour. The mature female is more convex than the male and displays the usual disparity in the size of the chelipeds which are sub-equal, the male having one cheliped much more developed than the other.

The immature males and females resemble each other in the convexity of the carapace.

**Material.**—Seven females measuring from 14.5 mm. to 23.5 mm. across the carapace.

The only ovigerous specimen measures 20.2 mm.

Seven males measuring from 11 mm. to 25 mm. across the carapace.

*Leptodius nudipes* (Dana).

*Chlorodius nudipes* Dana Proc. Acad. Nat. Sci. Philad., 1852, 79; U.S. Explor. Exped., Crust. 1, 1852, 209; Atlas 1855, pl. xi, figs., 12a-c. Mangsi Islands.

*Leptodius nudipes* (Dana) Ward, Aust. Zool. VII, III, 1932, 244. Capricorn Group, Queensland.

There is a fine series in the collection which agree with the specimens I have collected from the reefs of the Barrier Reef, Queensland, the characteristic development of the anterolateral teeth is consistent throughout the series.

**Material.**—Six females measuring from 7.5 mm. to 10 mm. across the carapace; only one female, 10 mm., is ovigerous. Four males measuring from 7 mm. to 12 mm., across the carapace.

*Leptodius cavipes* (Dana).

*Chlorodius cavipes* Dana. U.S. Explor. Exped. Crust. 1, 1852, 212. "Locality uncertain".

*Xantho* (*Leptodius*) *cavipes* (Dana) Alcock, Journ. Asiat. Soc. Bengal lxvii, II, 1, 1898, 122, Andamans, Mergui, Ceylon.

*Leptodius cavipes* (Dana) Rathbun Trans. Linn. Soc. London, (2) Zool., xiv, 2, 1911, 216. Peros, Coin.

**Material.**—One male measuring 12.5 mm. in total carapace width.

*Leptodius planus* sp. nov. (Pl. III, Fig 6 6a).

**Description.**—Carapace wider than long, convex anteriorly, regions defined by shallow grooves which become faint on the central portions. Surface granular the granules becoming more pronounced on the anterolateral margins, coarse punctæ are scattered over the surface.

Anterolateral margins quadridentate, the teeth scarcely produced sufficiently to break the curve of the margins. The fronto-orbital margin is as wide as the carapace is long; the orbits have an upward inclination. Their upper margins have faint indications of two sutures near the lateral angles.

The front is one third the total width of the carapace and is produced sufficiently to form, with the anterolateral margins, a graceful curve; the median notch is shallow, the lateral angles are produced into rounded teeth.

The subhepatic and pterygostomial regions are granular, the granules becoming finer towards the bases of the chelipeds; the epimeral walls of the carapace are clothed with a dense coating of long hairs which are absent from the sub-hepatic and pterygostomial surfaces.

The maxillipeds are granular and punctate, the granules being more developed on the merus than the ischium.

The chelipeds are subequal in both sexes. The walking legs have a few long golden hairs on their margins. These become more numerous on the distal articles.

*L. planus* differs from *L. exaratus* (H. Milne Edwards) in the following characters, compared with the description and figure of H. Milne Edwards.

1. The fronto orbital length is greater in *L. planus*.
2. The lateral teeth are not triangular, the anterior margin of each tooth being half the length of the posterior margin, nor are they produced as in *L. exaratus*.
3. The front is less produced in *L. planus*.
4. The dorsal surface of the carapace is less deeply areolated.

**Material.**—Four males measuring from 6 to 12.5 mm. in total carapace width. Three females measuring from 12.5 to 14.5 mm. in total carapace width.

Genus *Etisodes* Dana

*Etisodes* Dana. U.S. Explor. Exped., Crust. 1, 1852, 187.

Logotype. *E. frontalis* Dana. Sulu Sea.

This genus was erected by Dana who considered it as a sub-genus of *Etisus* Leach. The only differentiating characters then mentioned being the short merus of the cheliped and the narrow carapace. Ortmann considers it as a separate genus, but gets the species mixed with ones which actually belong to *Etisus* H. Milne Edwards. The original description of *Etisus* in the Hist. Nat. Crust., is concise and applies to *E. dentatus* (Herbst) and *E. anaglyptus* H. Milne Edwards and perhaps *E. utilis* Lucas.



*Etisodes* approaches certain of the species of *Leptodius* in the outline and lack of convexity of the carapace and the formation of the anterolateral margins. The front is decidedly unlike *Etisus* in form, being broader and less produced; in *Etisus* H. M. Edwards the front is equal to one third the breadth of the carapace, and is nearer to being half the breadth in *Etisodes* (measurement including the inner supra-orbital angles).

*Etisodes albus* sp. nov. (Pl. III, Fig. 5, 5a).

*Description*.—The length of the carapace, which is convex anteriorly and flat in the posterior half, is equal to three quarters of the breadth. The regions are clearly defined by shallow sulci; the surface is punctate. The hepatic regions and the lateral surfaces close to the margins are so densely punctate as to appear rugose.

The antero-lateral margins are thin and five toothed and there is a small tooth below the level of the lateral margin between the external orbital angle and the next lateral tooth. In each tooth the anterior margin is short and the posterior long so that the tip does not break the curve of the outline. There are one or two minute teeth between and on the same plane as the large teeth. The postero-lateral margins are concave and strongly convergent, the posterior margin is equal to the breadth of the front.

The front is deflexed and not greatly produced, it is cut into two teeth by a shallow notch, which is continued on the dorsal surface of the carapace as a sulcus which divides and outlines the mesogastric area. The frontal lobes are oblique in outline, the median notch is more advanced than the lateral angle and the margin is finely granular.

The orbits are large, the upper margin is thick and smooth and has one obscure suture; at the inner angle the margin becomes broad and flattened vertically (this can only be seen in a strictly frontal view). The lower margin is thin, sharp and visible from a dorsal view and there is an obsolete emargination immediately below the lateral angle.

The orbital hiatus is narrow and open, the antennæ not being excluded from the orbit. The antennular fossæ are deep and the inter-antennular septum is not strongly developed.

The external maxillipeds are smooth and punctate, the ischium is twice as long as the merus and both have the inner margins clothed with golden hairs.

The chelipeds are short, about as long as the carapace; the merus is hidden by the carapace; the carpus is as long as the merus, its outer surface pitted and irregular. The inner margin is thin and armed with one minute tooth followed by a broad

sub-acute angle near the articulation with the manus. The upper surface of the carpus near the inner margin is flat and polished as though continued rubbing against the sub-hepatic area of the carapace had removed all irregularities of the surface.

The manus is compressed, the outer surface rounded and ornamented with vertical lines of granules, and there is a short depressed line extending parallel with the lower margin onto the base of the immovable finger. The upper surface is rough and the margin is developed into a low carina, there is a second much less apparent carina extending parallel with the margin and lying in line with the articulation of the carpus. The lower margin is thin and smooth but not carinate.

The immovable finger is broad and armed with three teeth of which the middle one is the largest and is placed about mid way along the prehensile margin; there is a corresponding tooth on the dactylus which fits on the proximal side of the one on the immovable finger when the chelæ are closed.

The dactylus of the cheliped is thick and strongly curved, its upper margin is carinated, the carina being delimited by shallow longitudinal furrows.

The ambulatory legs are compressed and their upper margins armed with curved spines which are hidden by hairs, these hairs are long and thin and become numerous on the distal articles.

The tomentum on the epimeral walls of the carapace does not reach the lateral margins.

The female holotype measures 13.5 mm. and the male holotype 10.5 mm., across the carapace.

The species is allied to *E. frontalis* Dana, Sulu sea, and *E. demani* Odhner. It differs from *E. frontalis* as defined by Dana in the less produced front and the formation of the anterolateral teeth. Also the anterolateral angle of the merus of the external maxilliped is produced into a rounded angle and is not square as in *E. frontalis* Dana.

*E. albus* differs from *E. demani* Odhner in the formation of the front, the anterolateral margin and many other characters.

*Material*.—Two females measuring 13.5 and 14 mm. in total carapace width. One male measuring 10.5 mm. in total carapace

#### Genus *Medæus* Dana.

*Medæus* Dana. U.S. Explor. Exped. Crust. 1. 1852, 181.

Haplotype. *M. ornatus* Dana.

Type Locality. Lahaina, Island of Maui, Hawaii. Dredged.

*Medæus noelensis* sp. nov. (Pl. I, Fig. 1, 1a).

The outline of the carapace resembles *Medæus granulosus* (Haswell) and *M. distinguendus* (de Haan). It is readily

separated from them by the smooth condition of the carapace, by the broader, less produced front and in lacking some of the lateral teeth.

*Description*.—Carapace broader than long, areas clearly defined. The surface smooth to the naked eye, covered with uniform granules which are only apparent under a strong lens, and which do not form transverse ridges. The anterolateral teeth are not as developed as in *M. granulosus* Haswell.

The carpus and manus of the cheliped are not as deeply sculptured as in either of the related species. The articles of the walking legs have shallow longitudinal grooves, not deep as in *M. granulosus* (Haswell).

*Material*.—One male measuring 6.5 mm. in total carapace width.

#### Sub-family ACTÆINÆ

##### Genus Actæa de Haan.

*Actæa* de Haan, Fauna Japonica Crust., 1833, 4 and 18.

Logotype specified by Rathbun Bull. 152 U.S. Nat. Mus. Washington 1930. 250. *A. savignii* (H. Milne Edwards).

Type locality. Red Sea.

##### *Actæa suffuscula* Rathbun.

*Actæa suffuscula* Rathbun Trans. Linn. Soc. London, (2) Zool., xiv, 2, 1911, 220, Pl. xvii, F. 10. Coctivy, Samoa.

Odhner unites this species with *A. consobrina* A Milne Edwards but I prefer to wait until I have material from the type locality of *A. consobrina* before taking such action. There are specimens in my collection from the Capricorn group, Queensland which I have recorded as *A. consobrina* A. Milne Edwards, and these do not agree in detail with the series present in this collection.

*Material*.—Two males measuring 7 and 8 mm., across the carapace. One female measuring 7 mm. across the carapace.

##### *Actæa fossulata* (Girard).

*Cancer fossulata* Girard, Ann. Soc. Entom. France (3) vii, 1859, 149, pl. iv, fig. 2a-b. Red Sea.

*Actæa fossulata* (Girard) Alcock Journ. Asiat. Soc. Bengal, lxvii, II, 1, 1898, 148, Andamans.

There are specimens of *A. cavipes* (Dana) before me from the Great Barrier Reef of Queensland; the specimen of *A. fossulata* differs from them in several important characters most conspicuous of which is the development of the anterolateral teeth. In *A. fossulata* they are strongly developed and triangular, those of *A. cavipes* being scarcely noticeable.

*Material*.—One male measuring 10 mm., across the carapace.

##### *Actæa rufopunctata* (H. Milne Edwards).

*Xantho rufopunctatus* H. Milne Edwards, Hist. Nat. Crust. 1, 1834, 389. Mauritius.

*Actæa rufopunctata* (Milne Edwards) Alcock Journ. Asiat. Soc. Bengal, lxvii, II, 1, 1898, 142 synonymy except *A. nodosa* Stimpson.

*Material*.—One male measuring 8.5 mm., across the carapace.

##### *Actæa tomentosa* (H. Milne Edwards).

*Zoerymus tomentosus* H. Milne Edwards Hist. Nat. Crust. I. 1834, 385 and in Cuvier Regne Animal, Crust. pl. xi, bis, fig. 2. Indian Ocean.

*Actæa tomentosa* Alcock Journ. Asiat. Soc. Bengal, lxvii, II, 1, 1898, 140.

*Material*.—Six females ranging from 11.5 mm., to 21.5 mm., across the carapace, in this species the females do not appear to breed until large size is attained, none of the present series is ovigerous and the smaller specimens have narrow masculine abdomens. Ten males ranging from 8 mm., to 22 mm., across the carapace.

##### Genus Daira de Haan

*Daira* de Haan, Fauna Japonica, Crust., 1833, 18. Alcock Journ. Asiat. Soc. Bengal, lxvii, II, 1, 1898, 154.

Logotype specified by Rathbun Bull. 152, U.S.N. Mus. Wash. 1930, 268. *D. perlatus* (Herbst) Type locality unknown.

##### *Daira perlata* (Herbst).

*Daira perlata* (Herbst) Alcock, Journ. Asiat. Soc. Bengal, lxvii, II, 1, 1898, 155.

In the smaller males the sexual organs are scarcely visible and the only means of differentiating between the sexes is the presence or absence of the female apertures in the sternum. In the fully grown females which are in my collection from other localities the abdomen is broad and rounded, but in the present series there is no difference between the sexes in the narrow outline.

The colouration is interesting; of the three females, two are dark brown. One has the carapace almost white with its legs variegated with brown and white. Of the five males, the smallest is white on the carapace, the two largest are almost white, and the two intermediate sized are dark brown.

*Material*.—Three females measuring from 10 mm., to 14 mm., across the carapace. Five males measuring from 6.5 mm., to 10 mm., across the carapace.

#### Sub-family CHLORODINÆ

##### Genus Xanthias Rathbun

*Xanthias* Rathbun, Bull. 152, U.S. Nat. Mus. Wash., 1930, 464. Logotype *X. lamarekii* (H. Milne Edwards) 1834, Mauritius.



*Xanthias lamareckii* (H. Milne Edwards).

*Xantho lamareckii* H. Milne Edwards, Hist. Nat. Crust. 1, 1834, 391. Mauritius.

*Xanthodes lamareckii* (H. M. Edw.), Alcock Journ. Asiat. Soc. Bengal, lxvii, II, 1, 1893, 157. Andamans; Madras coast and Ceylon.

*Xanthias lamareckii* (H. M. Edw.), Odhner, K. Vet. O. Vitterh. Samh. Hand. Band, 29, 1, 1924, 84.

**Material.**—Four females measuring from 11.5 to 17.5 mm. across the carapace. Two males measuring 11.5 and 12.5 mm., across the carapace.

Genus *Paraxanthias* Odhner

*Paraxanthias* Odhner K. Vet. O. Vitterh. Samh. Handl. Bd. 29, 1, 1924, 85.

Orthotype. *P. notatus* (Dana).

Type locality. Paumotu (Dana).

*Paraxanthias haematostictus* sp. nov. (Pl. II, Fig. 3, 3a).

**Description.**—Carapace nearly two thirds as long as it is wide, the surface microscopically granular, the inter-regional sulci not strongly developed; the regions not inflated. Anterolateral margins armed with four tuberculiform teeth, the last two surrounded by short hairs, these are not dense enough to hide the lateral teeth. The fronto-orbital margin is half as wide as the carapace. The front is curved and has a wide median notch, the lateral angles are developed into rounded teeth, the orbit is half as wide as the front, the supra-orbital margin has two obsolete sutures near the lateral angle and one well developed just below the lateral angle. The orbital hiatus is broad and the antenna stands in the space.

The epimeral walls of the carapace are clothed with a coat of long hair which extends onto the dorsal surface of the carapace at the lateral angles, the sub-orbital areas are free of hair and there are few hairs on the external maxillipeds, but the margins of the abdomen are fringed with long hair which fills the lines of articulation; there is also a broad V-shaped patch of hair on the anterior surface of the sternum.

The chelæ are unequal; the manus is smooth, the outer surface punctate, an impressed row of punctae near the upper margin. The dactylus is thick and acuminate and armed with six broad teeth, the immovable finger is armed with three teeth two of which are situated near the middle, the third is near the acclivous tip. The carpus resembles the manus in its smoothness and there are two well developed teeth at the inner angle. The merus is short. Its upper margin sharp and covered with granules and fringed with long hairs.

The ambulatory legs are slender and fringed with long hairs which spread over the whole surface of the last two articles resulting in a shaggy appearance.

*P. haematostictus* differs from the other recognised species of the genus in the great development of the hairs on the legs and the lateral angles of the carapace. The nearest related species appears to be *Xanthodes nitidulus* Dana, but is readily differentiated by the small anterolateral teeth on the carapace, the patches of hair on the anterolateral angles of the carapace, the weak areolation of the carapace and the rounded upper margin of the manus.

**Material.**—One female measuring 17.5 mm., across the carapace. There is a Bopyrid parasite in the gill cavity of the right side.

Genus *Chlorodopsis* A. M. Edwards

*Chlorodopsis* A. Milne Edwards Nouv. Arch. Mus. Hist. Nat. Paris, ix, 1873, 227. Idem. Alcock, Journ. Asiat. Soc. Bengal, lxvii, II, 1, 1893, 165.

Type *Chlorodopsis melanocheirus* A. Milne Edwards.

Type locality. New Caledonia.

*Chlorodopsis natalensis* sp. nov. (Pl. I, Fig. 6, 6a).

Carapace longitudinally convex, the sulci which delineate the regions of the dorsal surface are shallow and smooth, the major areas are not subdivided. The entire surface is covered with uniform granules. The anterolateral margins are armed with four broad, blunt teeth; the first of which is fused with the outer orbital angle, the second and third are more salient, but not acuminate. The fourth is as developed as the first. The orbits are large, the margins are broken by two obsolete fissures above, and are entire below, the edges are granulate. The front is deflexed and has a broad shallow median notch, the two resultant lobes have a thickened granular edge, their lateral angles are not marked.

In the external maxillipeds the ischial article is twice the length of the meral article and there is a faint longitudinal groove near the opposed edges. The meral articles are auriculate at the antero-external angles.

The chelipeds are unequal. The merus of the major chela is scarcely visible beyond the carapace. The carpus is rounded and uniformly granular and armed at its inner angle with a broad blunt spine. The manus resembles the carpus with its coating of granules which become smaller on the outer and lower surfaces, disappearing completely on the proximal half of the immovable finger. The dactylus is as long as the upper margin of the manus. It is carinated dorsally owing to the two longitudinal grooves. There is a second less noticeable groove on the outer surface. There are two low triangulate teeth on the proximal half and the tip is spoon-excavated. The immovable finger is

grooved on the outer surface near the lower margin and has a single large tooth placed half way from the base. The ambulatory legs are slender and fringed with long hairs along the upper margins of the articles.

*C. natalensis* approaches *C. venusta* Rathbun, but is readily separated by the following characters—

1. The anterolateral teeth are broad and not spinate.
2. There are no narrow acute teeth outside the lobe of the front.
3. The arm of the cheliped is not spined on its anterior border.

*Material*.—One male designated as type 7.5 mm. across the carapace. Three males measuring 6.5 to 7 mm., across the carapace. Two females measuring 7 and 7.5 mm., across the carapace.

#### Genus *Phymodius* A. Milne Edwards

*Phymodius* A. Milne Edwards, Ann. Sci. Nat. (4), xx, 1863, 283.

Logotype specified by Rathbun Bull. 152 U.S. Nat. Mus., Washington, 1930, 294. *P. unguatus* (H. M. Edw.).

Type Locality. Australasia. (H. M. Edw.).

#### *Phymodius sculptus* (A. Milne Edwards).

*Chlorodius sculptus* A. Milne Edwards Nouv. Arch. Mus. Hist. Nat. Paris. ix, 1873, 217, pl. viii, fig. 4. New Caledonia.

*Phymodius sculptus*. (A. Milne Edwards) Alcock Journ. Asiat. Soc. Bengal, lxvii, II. 11. 1898, 164. Andamans; Mergui. Ceylon.

*Material*.—Two males measuring 15.5 and 22 mm. across the carapace. Two females measuring 15 and 18 mm. across the carapace.

#### Genus *Tweedieia* nov.

The most striking characteristic of this genus is the development of the fronto-orbital margin. The front is bilobed and between each lobe and the orbit is a deep rounded fissure formed by a folding back of the margin in such a way that the outer angles of the antennular fossæ very nearly open on the dorsum of the carapace. The lateral angles of the front are fused with the inner supra-orbital angles. The orbital margins are not grooved and the orbits have a dorsal inclination. The orbital hiatus is narrow and a slender prolongation of the basal article of the antennæ extends into it, the flagella stand in the hiatus, the basal segment pressed against the angle of the orbit.

The chelæ are equal in size and short.

#### *Tweedieia noelensis* sp. nov. (Pl. I, Fig. 2, 2a).

Carapace flat except in the anterior third where it is moderately inclined. The surface is areolated, the protogastric

lobes not subdivided; the hepatic area is separated from the branchial by a deep sulcus; the branchial region is also subdivided. Anterolateral margin curved and armed with four teeth.

The chelæ are equal, the merus scarcely visible beyond the lateral margins of the carapace; the carpus is granular and has three nodular swellings on the outer surface. The inner angle bears two conical spines. The manus is broad, the lower margin twice the length of the upper margin. The outer surface is ornamented with rows of conical spinose granules intermixed with fine golden hairs. The dactylus is short, strongly curved and ornamented on the proximal half with granules similar to those on the manus; the tip is spoon-excavate and there is a large tooth near the base. There are several bunches of long stiff, golden hairs on the outer surface which mask the gape between the big tooth and the tip. The ambulatory legs are densely fringed with long golden hairs.

*Material*.—One male measuring 10 mm. across the carapace.

#### Sub-family MENIPPINÆ

#### Genus *Pseudozius* Dana

*Pseudozius* Dana, Sillimans Jour. (2) xii. 1851, 127; Proc. Acad. Nat. Sci. Philad. 1852, 81; and U.S. Explor. Exped. Crust. I. 1852, 232.

Logotype specified by Ward, Austr. Zool. vii, iii, 1932, 252. *Pseudozius planus* Dana.

Type locality. Waterland Island, Raraka Island or Paumotu.

#### *Pseudozius caystrus* (Adams and White).

*Panopeus caystrus* Adams & White Voy. Samarang, Zool. Crust. II. 1849, 42 pl. ix, f. 2. Eastern Seas.

The species is closely related to the type species but I have not followed Alcock in placing *P. planus* Dana as a synonym of *P. caystrus* (Adams and White) owing to the lack of accessible material from the type locality of *P. planus* Dana. The specimens in this collection fit the figure and description of the Samarang species and not those given by Dana of *P. planus*.

*Material*.—Four females measuring 12 mm. across the carapace and two adults measuring 17.5 mm., and 20 mm., across the carapace. One male measuring 11 mm., across the carapace.

#### Family GRAPSIDÆ

#### Sub-family PLAGUSINÆ

#### Genus *Percnon* Gistel

*Percnon* Gistel Naturg. Thierreichs, 1848, 8; Rathbun Bull. 97, U.S. Nat. Mus. Washington, 1918, 337.

Logotype. *P. planissimum* (Herbst).

Type locality. East Indies.

*Percnon demani* nom. nov. Pl. III, Fig. 3, 3a.

*Leiostomus abbreviatus* de Man (nec. Dana)

Abhandl. d. Senkenb. Ges. 1902, 544, Pl. xx, f. 13. Ternate.

I have specimens of the true *Percnon abbreviatus* Dana from the Hawaiian Islands, these differ from *P. demani* in the formation of the carapace, which is square, not narrowed anteriorly (See figures).

**Material.**—Eleven males measuring from 4.5 mm. across the carapace to 15 mm. One female, immature, measuring 9 mm. across the carapace.

#### Sub-family GRAPSINÆ

##### Genus Grapsus Lamarck

*Grapsus*, Lamarck, Sys. Anim. sans Vert., 1801, 150.

Logotype specified by Rathbun Bull. 97, U.S. Nat. Mus. Washington 1918, 226. *G. pictus* Latreille—*G. grapsus* (Linn.).

*Grapsus intermedius* de Man.

*Grapsus intermedius* de Man Archiv., für Naturges. 53, 1, 1887, 365, pl. 16, fig. 1.

Idem. Tesh, Siboga-Exped., xxxix c, 1918, 71.

Tesch gives a key to species of *Grapsus* briefly noting the structural differences which separate *G. intermedius* de Man from the allied *G. strigosus* (Herbst) and *G. maculatus* (Catesby).

I have examined many specimens of *G. strigosus* (Herbst) and the group of species usually listed in the synonymy of *G. grapsus* (Linn.) and find that *G. intermedius* differs in many characters of formation.

*G. tenuicrustatus* (Herbst) occurs on the coast of India and has been recorded by Alcock in his Carcinological Fauna of India as *G. grapsus* (Linn.) which is confined to the New World. I possess specimens of both species, one from the Indian Museum—*tenuicrustatus* (Herbst). and several from Cuba and Panama, *G. grapsus* (Linn.).

*G. tenuicrustatus* (Herbst) is very like *G. grapsus* (Linn.), but is readily separated by the more developed raised lines on the gastric regions, the more irregular surface of the carapace generally, by the broader propodites of the ambulatory legs which in *G. tenuicrustatus* (Herbst) are one third as broad as long whereas in *G. grapsus* (Linn.) they are one quarter as broad as they are long. The front is steeply inclined in both species, but the distance between the epigastric lobes and the margin of the front is greater in *tenuicrustatus* (Herbst) than in *grapsus* (Linn.).

The difference between *G. intermedius* de Man and *G. tenuicrustatus* (Herbst) is more apparent. The carapace is not narrowed anteriorly in *G. intermedius*, the front is broader. The

distance between the epigastric lobes and the margin not as great as in *G. tenuicrustatus*, also the transverse ridges are more developed.

From *G. strigosus* (Herbst) the species differs in the broader front and the parallel lateral margins of the carapace.

**Material.**—Three males 17 mm. 18.5 and 22 mm. across the carapace. Three females 18.5 mm., 21 mm. and 22 mm. across the carapace.

##### Genus Pachygrapsus Randall

*Pachygrapsus* Randall, Journ. Acad. Nat. Sci. Philad. viii. 1839. (1840) 127. Idem. Rathbun Bull. 97, U.S. Nat. Mus. Washington 1918, 240.

Logotype specified by Rathbun, loc. cit. 1918, 240. *P. crassipes* Randall. Hawaiian Islands?

*Pachygrapsus natalensis* sp. nov. (Pl. III, Fig. 4, 4a).

Related to *Pachygrapsus plicatus* (H. M. Edwards) but differs from that species (specimens compared) in the proportions of the carapace which is broader in the Hawaiian species. The chelæ are more inflated in *P. natalensis* in the male.

The length of the carapace is equal to three quarters of the width. The depth of the cephalothorax through the middle is equal to half the width of the carapace. The dorsal surface of the carapace is crossed by ridges ornamented with hairs similar to those on *P. plicatus* (H. M. Edwards).

The front is about half as wide as the carapace; the margin sinuous and deflexed. The epigastric lobes are developed but not as strongly as in *P. plicatus* (H. M. Edwards). Orbits as in *P. plicatus* (H. M. Edwards). The meri of the ambulatory legs are broader than those of the related species.

**Material.**—Two males measuring 12.5 mm. and 14 mm., across the carapace. The larger of the two is the type. Two females 12 and 13.5 mm., across the carapace.

*Pachygrapsus murrayi* (Calman).

*Sesarma murrayi* Calman Proc. Zool. Soc. London 1909, 708, pl. lxii, figs. 4 and 5.

This species is closely allied to *P. minutus* A. Milne Edwards, New Caledonia.

**Material.**—Six males measuring from 5.5 mm., to 8.5 mm., across the carapace. Seven females measuring from 6 to 8 mm., across the carapace; there are three ovigerous individuals.

*Pachygrapsus planifrons* de Man.

*Pachygrapsus planifrons* de Man. Archiv. f. Naturgesch. 53 Jahrg. 1888, 368, pl. xvi, f. 2. Insel. Noordwacher.

The species is readily recognised by the flattened condition of the carapace, the concave outline of the lateral margins, the



tuft of hairs on the tips of the dactyli and immovable fingers of the chelipeds, the sinuous outline of the front and the small size of the entire crab.

*Material*.—Five males ranging from 5 mm. to 12 mm. across the carapace. Five females ranging from 4 mm. to 11 mm. across the carapace.

Genus *Pseudograpsus* H. Milne Edwards

*Pseudograpsus* H. Milne Edwards, Hist. Nat. Crust., II, 1837, 81.

Logotype. *Pseudograpsus penicilliger* (Latreille).

= *Grapsus penicilliger* Latreille 1817.

= *Cancer setosus* Fabricius preoccupied by *Cancer setosus* Molina 1782 Chili.

Type locality. East Indies.

*Pseudograpsus crassus* A. Milne Edwards.

*Pseudograpsus crassus* A. Milne Edwards Nouv. Arch. Mus. Hist. Nat. Paris, iv. 1868, 176, Pl. xxvi, Fig. 6-10., Celebes.

The quoted figure is apparently of an adult male.

*Material*.—One female measuring 8 mm., across the carapace.

Family GECARCINIDÆ

Genus *Hylæocarcinus* Wood Mason

*Hylæocarcinus* Wood Mason. Journ. Asiat. Soc. Bengal. XLII, II, 1873, 259.

Haplotype. *Hylæocarcinus humei*. Type Locality. Nicobar Islands. Wood Mason.

*Hylæocarcinus natalis* Pocock. (Pl. II, Fig. 4 4a).

*Hylæocarcinus natalis* Pocock. Proc. Zool. Soc. London, 1888, 561. Christmas Island.

*Gecarcoidea lalandii* Calman, (nec. H. M. Edwards), Proc. Zool. Soc. London. 1909, 710.

*Hylæocarcinus natalis* Pocock differs from allied species in that it has only four rows of spines on the dactyli of the walking legs instead of six. The smooth "scars" on the carapace are larger and more obvious than those on the allied species. The one near the lateral angle the orbit is very large. This character is of interest from the fact that it becomes more marked in the larger individuals, being scarcely visible on the juveniles. The ambulatory legs are longer and more slender than in the allied species, specimens of which are before me from New Britain. The fine series of *H. natalis* Pocock in the collection under discussion enables me safely to affirm the validity of the species.

*Material*.—Five females ranging from 13.5 to 24 mm., across the carapace. A series of twenty-five juveniles.

EXPLANATION OF PLATE I

*Medaeus noelensis* sp. nov.

Fig. 1. Dorsal view of the holotype measuring 6.5 mm., in total carapace width.

Fig. 1a. Ventral view of the anterior portion.

*Tweedieia noelensis* gen. and sp. nov.

Fig. 2. Dorsal view of the holotype measuring 10 mm., in total carapace width.

Fig. 2a. Ventral view of the anterior portion.

*Atergatis tweediei* sp. nov.

Fig. 3. Dorsal view of the holotype measuring 9 mm., in total carapace width.

Fig. 3a. Ventral view of the anterior portion.

*Hyastenus macrospinosus* sp. nov.

Fig. 4. Dorsal view of the holotype measuring 10 mm., in total carapace width, including the rostral spines.

Fig. 4a. Ventral view of the anterior portion.

*Proechinoecus sculptus* gen. and sp. nov.

Fig. 5. Dorsal view of the female holotype measuring 6.5 mm., in total carapace width.

Fig. 5a. Ventral view of the anterior portion.

*Chlorodopsis natalensis* sp. nov.

Fig. 6. Dorsal view of the holotype measuring 7.5 mm. in total carapace width.

Fig. 6a. Ventral view of the anterior portion.

*Kraussia proporcellana* sp. nov.

Fig. 7. Dorsal view of the holotype measuring 12 mm. in total carapace width.

Fig. 7a. Ventral view of the anterior portion.

EXPLANATION OF PLATE II

*Lioxantho subacuta* (Stimpson)

Fig. 1. Dorsal view of male measuring 15 mm., in total carapace width.

Fig. 1a. Ventral view of the anterior portion.

*Lioxantho laevidorsalis* (Miers)

Fig. 2. Dorsal view of female measuring 11.5 mm. in total carapace width.

Fig. 2a. Ventral view of the anterior portion.

*Paraxanthias haematostictus* sp. nov.

Fig. 3. Dorsal view of holotype measuring 17.5 mm., in total carapace width.

Fig. 3a. Ventral view of the anterior portion.

*Hylaeocarcinus natalis* Pocock

Fig. 4. Dorsal view of female measuring 24 mm., in total carapace width.

Fig. 4a. Ventral view of the anterior portion.

EXPLANATION OF PLATE III

*Percnon abbreviatus* (Dana)

Fig. 1. Dorsal view of female measuring 13 mm., in total carapace width. The specimen was collected on the reefs in the Hawaiian Islands and is housed in the Ward Collection Sydney.

Fig. 1a. Ventral view of the anterior portion.

*Pseudoliomera natalensis* sp. nov.

Fig. 2. Dorsal view of male measuring 13 mm., in total carapace width.

Fig. 2a. Ventral view of the anterior portion.

*Percnon demani* nom. nov.

Fig. 3. Dorsal view of male measuring 15 mm., in total carapace width.

Fig. 3a. Ventral view of the anterior portion.

*Pachygrapsus natalensis* sp. nov.

Fig. 4. Dorsal view of the male type measuring 14 mm., in total carapace width.

Fig. 4a. Ventral view of the anterior portion.

*Etisodes albus* sp. nov.

Fig. 5. Dorsal view of the female holotype measuring 13.5 mm., in total carapace width.

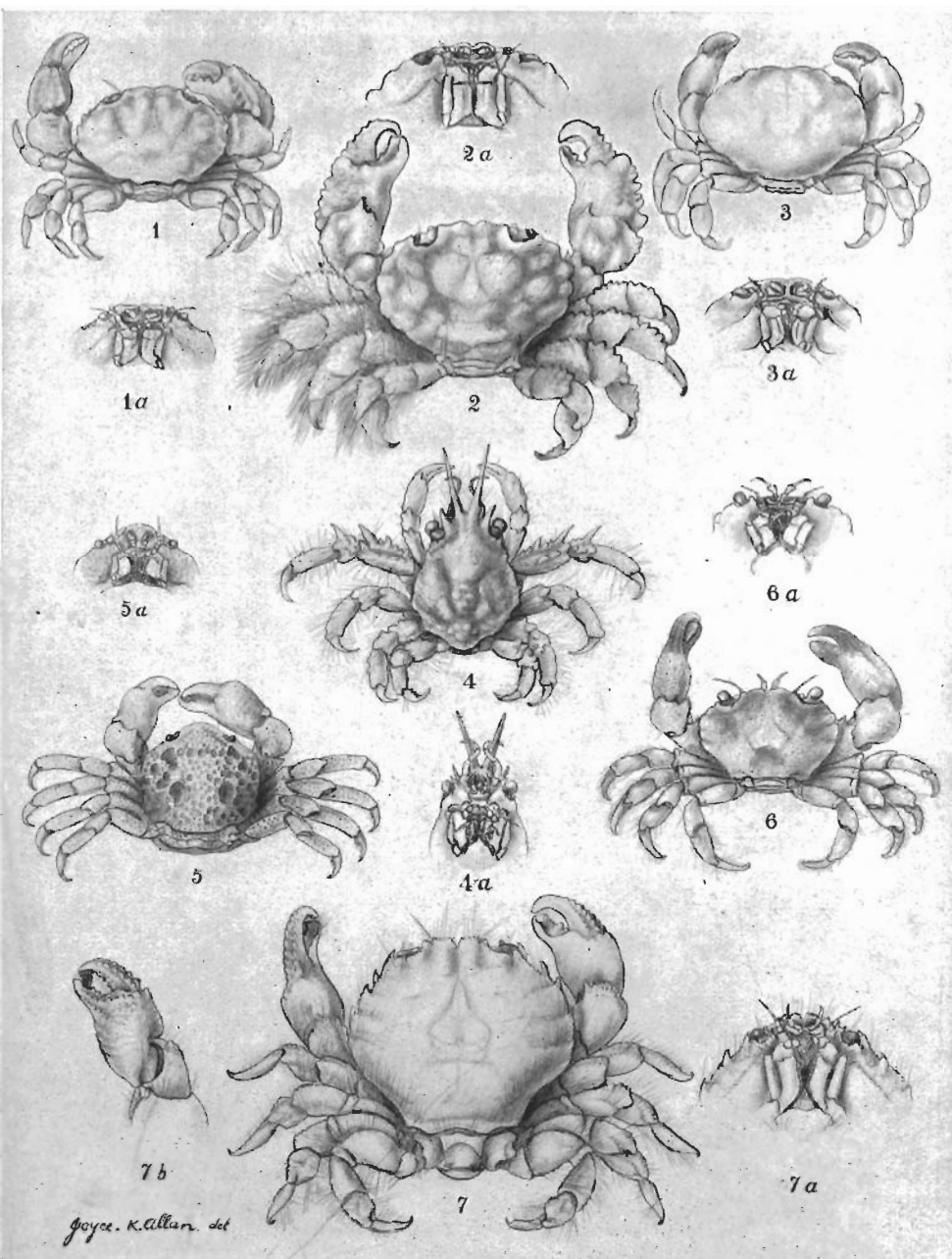
Fig. 5a. Ventral view of the anterior portion.

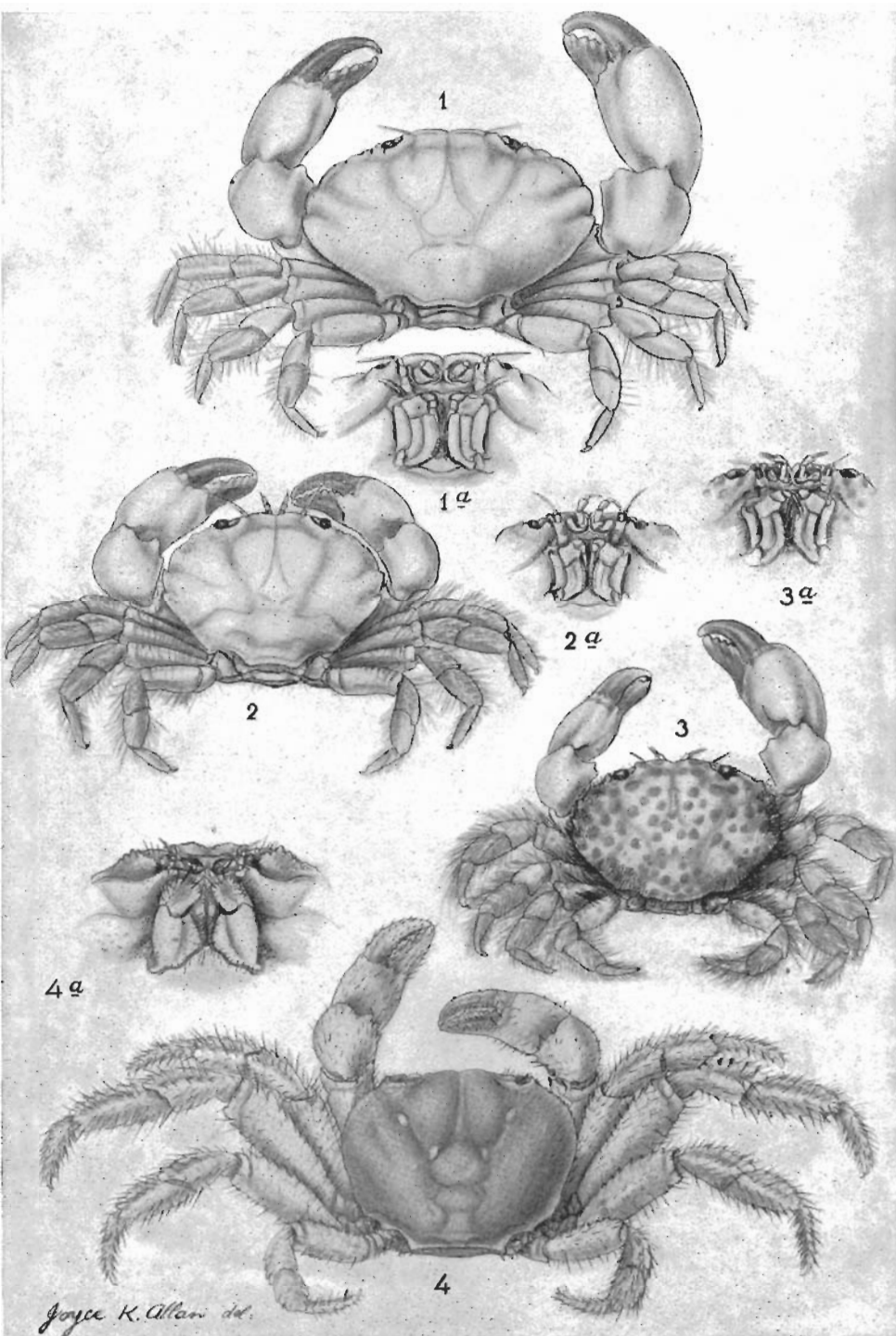
*Leptodius planus* sp. nov.

Fig. 6. Dorsal view of type measuring 10.5 mm., in total carapace width.

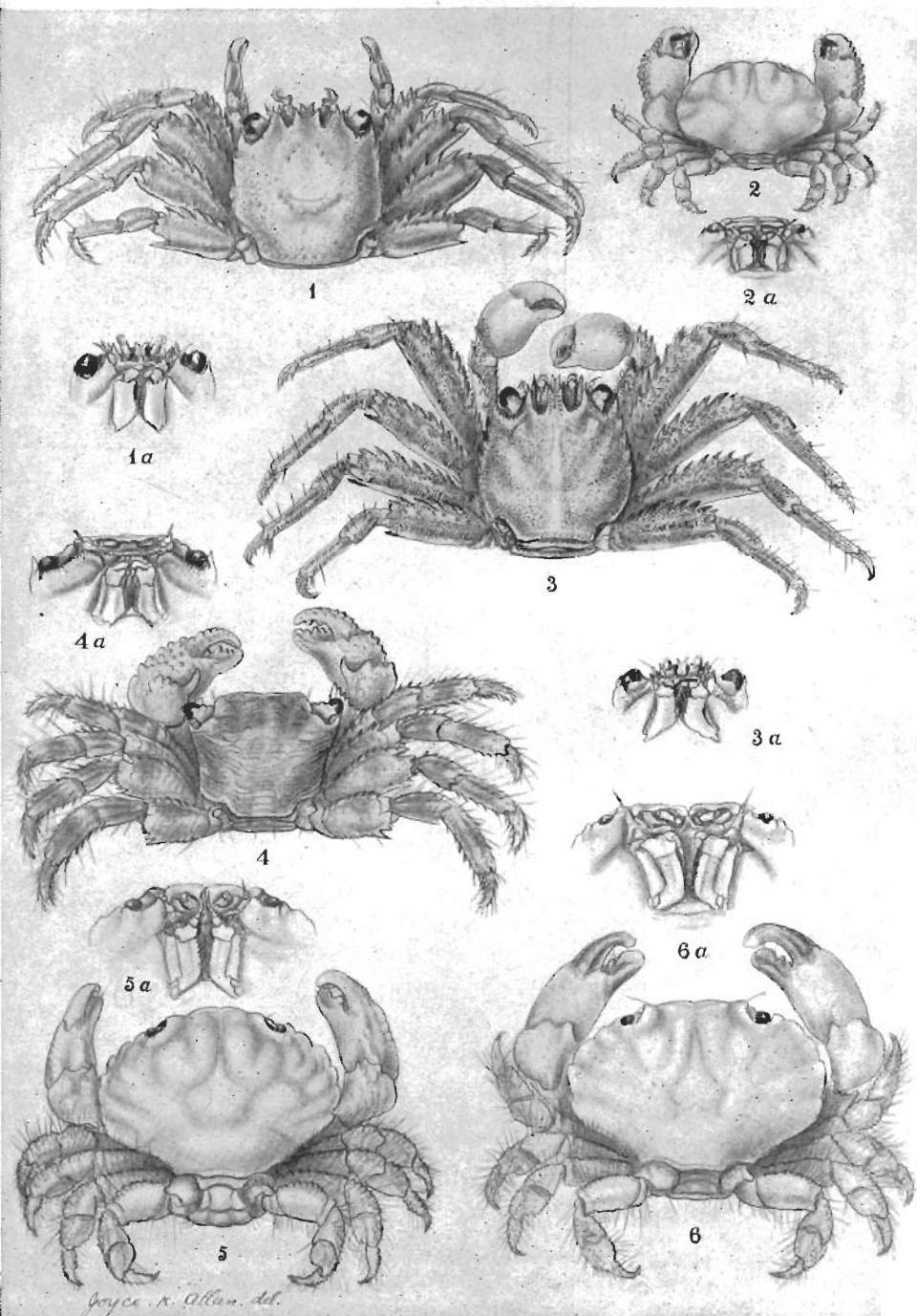
Fig. 6a. Ventral view of the anterior portion.







Brachyura from Christmas Island.



Brachyura from Christmas Island.